

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

United States Patent and Trademark  
Office  
(Box PCT)  
Crystal Plaza 2  
Washington, DC 20231  
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing:

25 February 1999 (25.02.99)

International application No.:

PCT/GB97/02226

Applicant's or agent's file reference:

EP-77 940/PCT

International filing date:

20 August 1997 (20.08.97)

Priority date:

Applicant:

WHITLEY, Tony

1. The designated Office is hereby notified of its election made:



in the demand filed with the International preliminary Examining Authority on:

10 July 1998 (10.07.98)



in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was



was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer:

J. Zahra

Telephone No.: (41-22) 338.83.38

## PATENT COOPERATION TREATY

**CORRECTED  
VERSION**  
PCT

From the INTERNATIONAL BUREAU

To:

SCHMIDT, Steffen, J.  
Wuesthoff & Wuesthoff  
Patent- und Rechtsanwälte  
Schweigerstrasse 2  
D-81541 München  
ALLEMAGNE

NOTIFICATION OF RECEIPT OF  
RECORD COPY

(PCT Rule 24.2(a))

WUESTHOFF & WUESTHOFF  
PATENT-UND RECHTSANWÄLTE

10.150.1

30

Date of mailing (day/month/year)

03 December 1998 (03.12.98)

## IMPORTANT NOTIFICATION

Applicant's or agent's file reference

EP-77 940/PCT

International application No.

PCT/GB97/02226

The applicant is hereby notified that the International Bureau has received the record copy of the international application as detailed below.

Name(s) of the applicant(s) and State(s) for which they are applicants:

✓ MAXON SYSTEMS INC. (LONDON) LTD. (for all designated States except US)

✓ WHITLEY, Tony (for US)

International filing date

: 20 August 1997 (20.08.97) ✓

Priority date(s) claimed

:

Date of receipt of the record copy  
by the International Bureau

: 16 September 1997 (16.09.97)

List of designated Offices

:

✓ EP : AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

✓ National : KR, US

## ATTENTION

The applicant should carefully check the data appearing in this Notification. In case of any discrepancy between these data and the indications in the international application, the applicant should immediately inform the International Bureau.

In addition, the applicant's attention is drawn to the information contained in the Annex, relating to:

- ☒ time limits for entry into the national phase  
☐ confirmation of precautionary designations  
☐ requirements regarding priority documents

A copy of this Notification is being sent to the receiving Office and to the International Searching Authority.

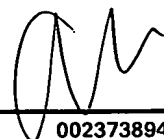
The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 740.14.35

Authorized officer:

Catherine Massetti

Telephone No. (41-22) 338.83.38



002373894

**INFORMATION ON TIME LIMITS FOR ENTERING THE NATIONAL PHASE**

The applicant is reminded that the "national phase" must be entered before each of the designated Offices indicated in the Notification of Receipt of Record Copy (Form PCT/IB/301) by paying national fees and furnishing translations, as prescribed by the applicable national laws.

The time limit for performing these procedural acts is **20 MONTHS** from the priority date or, for those designated States which the applicant elects in a demand for international preliminary examination or in a later election, **30 MONTHS** from the priority date, provided that the election is made before the expiration of 19 months from the priority date. Some designated (or elected) Offices have fixed time limits which expire even later than 20 or 30 months from the priority date. In other Offices an extension of time or grace period, in some cases upon payment of an additional fee, is available.

In addition to these procedural acts, the applicant may also have to comply with other special requirements applicable in certain Offices. It is the applicant's responsibility to ensure that the necessary steps to enter the national phase are taken in a timely fashion. Most designated Offices do not issue reminders to applicants in connection with the entry into the national phase.

For detailed information about the procedural acts to be performed to enter the national phase before each designated Office, the applicable time limits and possible extensions of time or grace periods, and any other requirements, see the relevant Chapters of Volume II of the PCT Applicant's Guide. Information about the requirements for filing a demand for international preliminary examination is set out in Chapter IX of Volume I of the PCT Applicant's Guide.

GR and ES became bound by PCT Chapter II on 7 September 1996 and 6 September 1997, respectively, and may, therefore, be elected in a demand or a later election filed on or after 7 September 1996 and 6 September 1997, respectively, regardless of the filing date of the international application. (See second paragraph above.)

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

**CONFIRMATION OF PRECAUTIONARY DESIGNATIONS**

This notification lists only specific designations made under Rule 4.9(a) in the request. It is important to check that these designations are correct. Errors in designations can be corrected where precautionary designations have been made under Rule 4.9(b). The applicant is hereby reminded that any precautionary designations may be confirmed according to Rule 4.9(c) before the expiration of 15 months from the priority date. If it is not confirmed, it will automatically be regarded as withdrawn by the applicant. There will be no reminder and no invitation. Confirmation of a designation consists of the filing of a notice specifying the designated State concerned (with an indication of the kind of protection or treatment desired) and the payment of the designation and confirmation fees. Confirmation must reach the receiving Office within the 15-month time limit.

**REQUIREMENTS REGARDING PRIORITY DOCUMENTS**

For applicants who have not yet complied with the requirements regarding priority documents, the following is recalled.

Where the priority of an earlier national, regional or international application is claimed, the applicant must submit a copy of the said earlier application, certified by the authority with which it was filed ("the priority document") to the receiving Office (which will transmit it to the International Bureau) or directly to the International Bureau, before the expiration of 16 months from the priority date, provided that any such priority document may still be submitted to the International Bureau before that date of international publication of the international application, in which case that document will be considered to have been received by the International Bureau on the last day of the 16-month time limit (Rule 17.1(a)).

Where the priority document is issued by the receiving Office, the applicant may, instead of submitting the priority document, request the receiving Office to prepare and transmit the priority document to the International Bureau. Such request must be made before the expiration of the 16-month time limit and may be subjected by the receiving Office to the payment of a fee (Rule 17.1(b)).

If the priority document concerned is not submitted to the International Bureau or if the request to the receiving Office to prepare and transmit the priority document has not been made (and the corresponding fee, if any, paid) within the applicable time limit indicated under the preceding paragraphs, any designated State may disregard the priority claim, provided that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity to furnish the priority document within a time limit which is reasonable under the circumstances.

Where several priorities are claimed, the priority date to be considered for the purposes of computing the 16-month time limit is the filing date of the earliest application whose priority is claimed.

## PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF RECEIPT OF  
RECORD COPY

(PCT Rule 24.2(a))

25 SEP 1997

To:

SCHMIDT, Steffen, J.  
Wuesthoff & Wuesthoff  
Patent- und Rechtsanwälte  
Schweigerstrasse 2  
D-81541 München  
ALLEMAGNE

Date of mailing (day/month/year)

17 September 1997 (17.09.97)

## IMPORTANT NOTIFICATION

Applicant's or agent's file reference

EP-77 940/PCT

International application No.

PCT/GB97/02226

The applicant is hereby notified that the International Bureau has received the record copy of the international application as detailed below.

Name(s) of the applicant(s) and State(s) for which they are applicants:

- ✓ MAXON SYSTEM INC. (LONDON) LTD. (for all designated States except US)  
✓ WHITLEY, Tony (for US)

International filing date

20 August 1997 (20.08.97) ✓

Priority date(s) claimed

Date of receipt of the record copy  
by the International Bureau

16 September 1997 (16.09.97)

List of designated Offices

- ✓ AP : GH, KE, LS, MW, SD, SZ, UG, ZW  
✓ EA : AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
✓ EP : AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE  
✓ OA : BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG  
National : AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU,  
✓ IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU,  
SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW

## ATTENTION

The applicant should carefully check the data appearing in this Notification. In case of any discrepancy between these data and the indications in the international application, the applicant should immediately inform the International Bureau.

In addition, the applicant's attention is drawn to the information contained in the Annex, relating to:

- ☒ time limits for entry into the national phase;  
☐ confirmation of precautionary designations;  
☐ requirements regarding priority documents.

A copy of this Notification is being sent to the receiving Office and to the International Searching Authority.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 740.14.35

Authorized officer:

Catherine Massetti

Telephone No. (41-22) 338.83.38

**INFORMATION ON TIME LIMITS FOR ENTERING THE NATIONAL PHASE**

The applicant is reminded that the "national phase" must be entered before each of the designated Offices indicated in the Notification of Receipt of Record Copy (Form PCT/IB/301) by paying national fees and furnishing translations, as prescribed by the applicable national laws.

The time limit for performing these procedural acts is **20 MONTHS** from the priority date or, for those designated States which the applicant elects in a demand for international preliminary examination or in a later election, **30 MONTHS** from the priority date, provided that the election is made before the expiration of 19 months from the priority date. Some designated (or elected) Offices have fixed time limits which expire even later than 20 or 30 months from the priority date. In other Offices an extension of time or grace period, in some cases upon payment of an additional fee, is available.

In addition to these procedural acts, the applicant may also have to comply with other special requirements applicable in certain Offices. It is the applicant's responsibility to ensure that the necessary steps to enter the national phase are taken in a timely fashion. Most designated Offices do not issue reminders to applicants in connection with the entry into the national phase.

For detailed information about the procedural acts to be performed to enter the national phase before each designated Office, the applicable time limits and possible extensions of time or grace periods, and any other requirements, see the relevant Chapters of Volume II of the PCT Applicant's Guide. Information about the requirements for filing a demand for international preliminary examination is set out in Chapter IX of Volume I of the PCT Applicant's Guide.

GR and ES became bound by PCT Chapter II on 7 September 1996 and 6 September 1997, respectively, and may, therefore, be elected in a demand or a later election filed on or after 7 September 1996 and 6 September 1997, respectively, regardless of the filing date of the international application. (See second paragraph above.)

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

**CONFIRMATION OF PRECAUTIONARY DESIGNATIONS**

This notification lists only specific designations made under Rule 4.9(a) in the request. It is important to check that these designations are correct. Errors in designations can be corrected where precautionary designations have been made under Rule 4.9(b). The applicant is hereby reminded that any precautionary designations may be confirmed according to Rule 4.9(c) before the expiration of 15 months from the priority date. If it is not confirmed, it will automatically be regarded as withdrawn by the applicant. There will be no reminder and no invitation. Confirmation of a designation consists of the filing of a notice specifying the designated State concerned (with an indication of the kind of protection or treatment desired) and the payment of the designation and confirmation fees. Confirmation must reach the receiving Office within the 15-month time limit.

**REQUIREMENTS REGARDING PRIORITY DOCUMENTS**

For applicants who have not yet complied with the requirements regarding priority documents the following is recalled.

Where the priority of an earlier national (i.e., national or regional) application is claimed, the applicant must submit a copy of the said national application, certified by the authority with which it was filed ("the priority document") to the receiving Office (which will transmit it to the International Bureau) or directly to the International Bureau, before the expiration of 16 months from the priority date (Rule 17.1).

Where the priority document is issued by the receiving Office, the applicant may, instead of submitting the priority document, request the receiving Office to prepare and transmit the priority document to the International Bureau. Such request must be made before the expiration of the 16-month time limit.

It is recalled that, where several priorities are claimed, the priority date to be considered for the purposes of computing the 16-month time limit is the filing date of the earliest application whose priority is claimed.

If the priority document concerned is not submitted to the International Bureau before the expiration of the 16-month time limit, or if the request to the receiving Office to transmit the priority document has not been made (and the corresponding fee, if any, paid) before the expiration of this time limit, any designated State may disregard the priority claim.

# PATENT COOPERATION TREATY

## PCT

### NOTIFICATION OF WITHDRAWAL OF INTERNATIONAL APPLICATION OR DESIGNATIONS

(PCT Rule 90bis.1 and 90bis.2 and F&WUESTHOFF  
Administrative Instructions, Section 415(a))

From the INTERNATIONAL BUREAU

To:

SCHMIDT, Steffen, J.  
Wuesthoff & Wuesthoff  
Patent- und Rechtsanwälte  
Schweigerstrasse 2  
D-81541 München  
ALLEMAGNE

Date of mailing (day/month/year) 28 July 1998 (28.07.1998)		07. AUG 1998
Applicant's or agent's file reference EP-77 940/PCT		30
International application No. PCT/GB97/02226	International filing date (day/month/year) 20 August 1997 (20.08.1997)	Priority date (day/month/year)
Applicant MAXON SYSTEM INC. (LONDON) LTD.		

IMPORTANT NOTIFICATION

1. The applicant is hereby notified that, except as to any designated State in which national processing or examination has already started upon the express request of the applicant:

- ☐ the international application
- ☒ the designations of the following States:
- ☒ for an ARIPO patent (specify "all States" or, if the withdrawal concerns only some States, specify those States only by indicating the two-letter country codes): all states
  - ☒ for a Eurasian patent
  - ☒ for a European patent (specify "all States" or, if the withdrawal concerns only some States, specify those States only by indicating the two-letter country codes):
  - ☒ for an OAPI patent
  - ☒ for a national patent (specify the States by indicating the two-letter country codes):  
AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW

has (have) been withdrawn on the date of receipt of the notice effecting withdrawal as indicated below:

10 July 1998 (10.07.1998)

2. The notice effecting withdrawal reached the International Bureau

- ☒ before the completion of the technical preparations for publication and, consequently, there will be no international publication:
- ☐ of the international application.
  - ☒ of the designations specified above.
- ☐ after the completion of the technical preparations for publication and, consequently, the withdrawal could not be taken into account for the international publication.

3. The receiving Office and, if they are affected by the withdrawal, the designated (or elected) Offices, the International Searching Authority and the International Preliminary Examining Authority, have been informed accordingly.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Catherine Massetti
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.83.38

# PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

## NOTICE INFORMING THE APPLICANT OF THE COMMUNICATION OF THE INTERNATIONAL APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

To:

SCHMIDT, Steffen, J.  
Wuesthoff & Wuesthoff  
Patent- und Rechtsanwälte  
Schweigerstrasse 2  
D-81541 München  
ALLEMAGNE

Date of mailing (day/month/year) 08. MARZ 1999  
25 February 1999 (25.02.99)

Applicant's or agent's file reference  
EP-77 940/PCT

### IMPORTANT NOTICE

International application No.  
PCT/GB97/02226

International filing date (day/month/year)  
20 August 1997 (20.08.97)

Priority date (day/month/year)

Applicant

MAXON SYSTEMS INC. (LONDON) LTD. et al

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:  
EP, KR, US ✓

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:  
None

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on 25 February 1999 (25.02.99) under No. WO 99/09729

### REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

### REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 740.14.35

Authorized officer

J. Zahra

Telephone No. (41-22) 338.83.38

## PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

INFORMATION CONCERNING ELECTED  
OFFICES NOTIFIED OF THEIR ELECTION

(PCT Rule 61.3)

08. MAR 1999

To:

SCHMIDT, Steffen, J.  
Wuesthoff & Wuesthoff  
Patent- und Rechtsanwälte  
Schweigerstrasse 2  
D-81541 München  
ALLEMAGNE

Date of mailing (day/month/year) 25 February 1999 (25.02.99)		IMPORTANT INFORMATION	
Applicant's or agent's file reference EP-77 940/PCT			
International application No. PCT/GB97/02226	International filing date (day/month/year) 20 August 1997 (20.08.97)	Priority date (day/month/year)	
Applicant MAXON SYSTEMS INC. (LONDON) LTD. et al			

1. The applicant is hereby informed that the International Bureau has, according to Article 31(7), notified each of the following Offices of its election:

✓ EP : AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE  
National : KR, US

2. The following Offices have waived the requirement for the notification of their election; the notification will be sent to them by the International Bureau only upon their request:

None

3. The applicant is reminded that he must enter the "national phase" before the expiration of 30 months from the priority date before each of the Offices listed above. This must be done by paying the national fee(s) and furnishing, if prescribed, a translation of the international application (Article 39(1)(a)), as well as, where applicable, by furnishing a translation of any annexes of the international preliminary examination report (Article 36(3)(b) and Rule 74.1).

Some offices have fixed time limits expiring later than the above-mentioned time limit. For detailed information about the applicable time limits and the acts to be performed upon entry into the national phase before a particular Office, see Volume II of the PCT Applicant's Guide.

The entry into the European regional phase is postponed until 31 months from the priority date for all States designated for the purposes of obtaining a European patent including, where applicable, ES which cannot be elected since it is not bound by Chapter II.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. (41-22) 740.14.35	Authorized officer:  J. Zahra  Telephone No. (41-22) 338.83.38
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# PATENT COOPERATION TREATY

# PCT

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

SCHMIDT, Steffen J.  
WUESTHOFF & WUESTHOFF  
Schweigerstrasse 2  
D-81541 München  
ALLEMAGNE

WUESTHOFF & WUESTHOFF  
PATENT-UND RECHTSANWÄLTE

24. JULI 1998

## NOTIFICATION OF RECEIPT OF DEMAND

(PCT Rule 61.1(b), first sentence  
and Administrative Instructions, Section 601)

Date of mailing  
(day/month/year)

23. 07. 98

Applicant's or agent's file reference  
EP-77 940/PCT

### IMPORTANT NOTIFICATION

International application No.

PCT/GB 97/ 02226

International filing date (day/month/year)

20/08/1997

Priority date (day/month/year)

20/08/1997

Applicant

MAXON SYSTEMS INC. (LONDON) LTD. et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority considers the following date as the date of receipt of the demand for international preliminary examination of the international application:

10/07/1998

2. This date of receipt is:



the actual date of receipt of the demand.



the date on which the proper corrections to the demand were timely received.

3. ☐ This date is **AFTER** the expiration of 19 months from the priority date.

**Attention:** The election(s) made in the demand does (do) not have the effect of postponing the commencement of the national phase until 30 months from the priority date (or later in some Offices)(Article 39(1)). Therefore, the acts for entry into the national phase must be performed within 20 months from the priority date (or later in some Offices) (Article 22).

For details, see Annex B to Form PCT/IB/301 sent by the International Bureau and Volume II of the PCT Applicant's Guide.



This notification confirms the information given in person or by telephone on:

4. Only where paragraph 3 applies, a copy of this notification has been sent to the International Bureau.

Name and mailing address of the IPEA/



European Patent Office  
D-80298 Munich  
Tel. (+ 49-89) 2399-0, Tx: 523656 epmu d  
Fax: (+ 49-89) 2399-4465

Authorized officer

*K. Ecker*

**Helga Eckert**

-24 07

Telephone No.

The demand must be filed directly with the competent International Preliminary Examining Authority if two or more Authorities are competent, with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/ \_\_\_\_\_

# PCT

## CHAPTER II

### DEMAND

under Article 31 of the Patent Cooperation Treaty:  
The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty.

For International Preliminary Examining Authority use only	
Identification of IPEA	Date of receipt of DEMAND
<b>Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION</b>	
International application No. PCT/GB 97/02226	International filing date (day/month/year) 20 August 1997
Applicant's or agent's file reference (Earliest) Priority date (day/month/year) 20 August 1997	
Title of invention Method of locating stored entries in an electronic telephone directory and communication apparatus	
<b>Box No. II APPLICANT(S)</b>	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)  Maxon Systems Inc. (London) Ltd. Maxon House Honeycrook Lane Salfords, Surrey RH1 5JP United Kingdom	Telephone No.:  Facsimile No.:  Teleprinter No.:
State (i.e. country) of nationality: GB	State (i.e. country) of residence: GB
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)  Whitley Tony 26 Beaufort Gardens Ascot Berkshire SL5 8PG United Kingdom	
State (i.e. country) of nationality: GB	State (i.e. country) of residence: GB
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)          	
State (i.e. country) of nationality:	State (i.e. country) of residence:
<input type="checkbox"/> Further applicants are indicated on a continuation sheet.	

**Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE**The following person is ☒ agent ☐ common representativeand ☒ has been appointed earlier and represents the applicant(s) also for international preliminary examination.☐ is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked.☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*Steffen J. Schmidt  
Wuesthoff & Wuesthoff  
Patent- und Rechtsanwälte  
Schweigerstr. 2

D-81541 München

Telephone No.:

089/62 18 00-0

Facsimile No.:

089/62 18 00-15

Teleprinter No.:

☐ Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.**Box No. IV STATEMENT CONCERNING AMENDMENTS**

The applicant wishes the International Preliminary Examining Authority\*

(i) ☒ to start the international preliminary examination on the basis of the international application as originally filed.(ii) ☐ to take into account the amendments under Article 34 of☐ the description (amendments attached).☐ the claims (amendments attached).☐ the drawings (amendments attached).(iii) ☐ to take into account any amendments of the claims under Article 19 filed with the International Bureau (a copy is attached).(iv) ☐ to disregard any amendments of the claims made under Article 19 and to consider them as reversed.(v) ☐ to postpone the start of the international preliminary examination until the expiration of 20 months from the priority date unless that Authority receives a copy of any amendments made under Article 19 or a notice from the applicant that he does not wish to make such amendments (Rule 69.1(d)). *(This check-box may be marked only where the time limit under Article 19 has not yet expired.)*

\* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

**Box No. V ELECTION OF STATES**☒ The applicant hereby elects all eligible States *(that is, all States which have been designated and which are bound by Chapter II of the PCT)* except .....*(If the applicant does not wish to elect certain eligible States, the name(s) or country code(s) of those States must be indicated above.)*

**Box No. VI CHECK LIST**

The demand is accompanied by the following documents for the purposes of international preliminary examination:

- |  |   |        |
|--|---|--------|
| 1. amendments under Article 34                     |   |        |
| description  | : | sheets |
| claims   | : | sheets |
| drawings   | : | sheets |
| 2. letter accompanying amendments under Article 34 | : | sheets |
| 3. copy of amendments under Article 19             | : | sheets |
| 4. copy of statement under Article 19              | : | sheets |
| 5. other (specify):                                | : | sheets |

For International Preliminary  
Examining Authority use only

received                      not received


<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
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The demand is also accompanied by the item(s) marked below:

- |  |   |
|--|---|
| 1. <input type="checkbox"/> separate signed power of attorney      | 4. <input type="checkbox"/> fee calculation sheet |
| 2. <input type="checkbox"/> copy of general power of attorney      | 5. <input type="checkbox"/> other (specify):      |
| 3. <input type="checkbox"/> statement explaining lack of signature |   |

**Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE**

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the demand).

  
Steffen J. Schmidt  
European Patent Attorney

10.07.98

For International Preliminary Examining Authority use only

1. Date of actual receipt of DEMAND:

2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b):

3. ☐ The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply. ☐ The applicant has been informed accordingly.

4. ☐ The date of receipt of the demand is WITHIN the period of 19 months from the priority date as extended by virtue of Rule 80.5.

5. ☐ Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82.

For International Bureau use only

Demand received from IPEA on:

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>EP-77 940/PCT</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/GB 97/ 02226</b>	International filing date (day/month/year) <b>20/08/1997</b>	(Earliest) Priority Date (day/month/year)
Applicant <b>MAXON SYSTEMS INC. (LONDON) LTD. et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. ☐ Certain claims were found unsearchable (see Box I).
2. ☐ Unity of invention is lacking (see Box II).
3. ☐ The international application contains disclosure of a **nucleotide and/or amino acid sequence listing** and the international search was carried out on the basis of the sequence listing
  - ☐ filed with the international application.
  - ☐ furnished by the applicant separately from the international application,
    - ☐ but not accompanied by a statement to the effect that it did not include matter going beyond the disclosure in the international application as filed.
  - ☐ Transcribed by this Authority

4. With regard to the title,
  - ☐ the text is approved as submitted by the applicant
  - ☒ the text has been established by this Authority to read as follows:

**COMMUNICATION APPARATUS AND METHOD FOR LOCATING STORED ENTRIES IN AN ELECTRONIC TELEPHONE DIRECTORY.**

5. With regard to the abstract,
  - ☒ the text is approved as submitted by the applicant
  - ☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this International Search Report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is:
  - Figure No. 2
    - ☐ as suggested by the applicant.
    - ☒ because the applicant failed to suggest a figure.
    - ☐ because this figure better characterizes the invention.
  - ☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 97/02226

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 6 H04M1/274

According to International Patent Classification(IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 6 H04M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	RUIZ A: "VOICE AND TELEPHONY APPLICATIONS FOR THE OFFICE WORKSTATION" PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON COMPUTER WORKSTATION, SAN JOSE, CALIFORNIA, NOVEMBER 11 - 14, 1985, no. CONF. 1, 11 November 1985, INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, pages 158-163, XP002029811 see on page 160 paragraph: "Tele" - Directory based autodial. ---	1-12
X	US 4 341 929 A (ALEXANDER RICHARD D ET AL) 27 July 1982 see column 2, line 5 - column 3, line 36 see column 3, line 57 - column 4, line 11 see figures 1,3,4 --- -/--	1-12

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

14 April 1998

Date of mailing of the international search report

23/04/1998

Name and mailing address of the ISA  
European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Golzio, D

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 97/02226

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 120 477 A (SIEMENS AG) 3 October 1984  see page 4, line 20-32 see page 5, line 16-37 see page 8, line 13-23 see figures 1,2  ---	1-3,7,8, 10-12
X	GB 2 266 797 A (NOKIA MOBILE PHONES UK ;NOKIA MOBILE PHONES LTD (FI)) 10 November 1993 see page 10, line 22 - page 12, line 11; figure 3 see abstract  ---	1-12
X	EP 0 457 077 A (ROLM SYSTEMS) 21 November 1991 see column 2, line 26 - column 3, line 24; figures 1,2  ---	1-12
X	EP 0 567 333 A (NIPPON ELECTRIC CO) 27 October 1993 see abstract; figure 3  -----	1,12

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 97/02226

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4341929 A	27-07-82	EP 0047782 A WO 8102824 A	24-03-82 01-10-81
EP 0120477 A	03-10-84	DE 3310964 A	04-10-84
GB 2266797 A	10-11-93	EP 0570116 A	18-11-93
EP 0457077 A	21-11-91	NONE	
EP 0567333 A	27-10-93	JP 6046121 A AU 3713093 A CA 2094547 A,C KR 9608330 B US 5467392 A	18-02-94 28-10-93 24-10-93 24-06-96 14-11-95



## PATENT COOPERATION TREATY

## PCT

REC'D 21 OCT 1999

WIPO

PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference EP-77 940/PCT	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB97/02226	International filing date (day/month/year) 20/08/1997	Priority date (day/month/year) 20/08/1997
International Patent Classification (IPC) or national classification and IPC H04M1/274		
Applicant MAXON SYSTEMS INC. (LONDON) LTD. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 5 sheets, including this cover sheet.

- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 10/07/1998	Date of completion of this report 19. 10. 99
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Haas, H Telephone No. +49 89 2399 8800 

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB97/02226

**I. Basis of the report**

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

**Description, pages:**

1-7 as originally filed

**Claims, No.:**

11,12 as originally filed

1-10 as received on 29/09/1999 with letter of 28/09/1999

**Drawings, sheets:**

1/3-3/3 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB97/02226

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	1-10
	No:	Claims	
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-10
Industrial applicability (IA)	Yes:	Claims	1-10
	No:	Claims	

**2. Citations and explanations**

**see separate sheet**

**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

**see separate sheet**

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

SECTION V

With respect to the subject-matter of claim 1, document D2 (RUIZ A: 'VOICE AND TELEPHONY APPLICATIONS FOR THE OFFICE WORKSTATION' PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON COMPUTER WORKSTATION, SAN JOSE, CALIFORNIA, NOVEMBER 11 - 14, 1985, no. CONF. 1, 11 November 1985, INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, pages 158-163, XP002029811) discloses a method for locating stored entries in an electronic telephone directory by

- a) receiving a number of characters of a name,
- b) identifying all entries matching said characters and displaying at least some of them,
- c) receiving further information if more than one entry has been identified to locate a single entry, where said further information regards the selection of one of the displayed entries (D2, page 160, left-hand column, second paragraph to right-hand column, first line).

The subject-matter of present claim 1 differs therefrom merely in that said further information regards entering a predefined number of further characters and identifying all entries matching all the information received so far. This corresponds, however, to the method applied in D1 (US-A-4 341 929 (ALEXANDER RICHARD D ET AL) 27 July 1982) to locate a single entry and is considered obvious for a person skilled in the art.

Present claim 1 does therefore not meet the requirements of Article 33(3) PCT because its subject-matter does not involve an inventive step.

The same applies to independent apparatus claim 9 reciting the same subject-matter as claim 1.

2. The subject-matter of dependent claims 2 to 8 and 10 only covers implementation details which are either rendered obvious by the documents of the International Search Report or lie fully within the normal capabilities of a person skilled in the art.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/GB97/02226

Therefore the dependent claims do not add anything of inventive significance to claims 1 or 9.

**SECTION VII**

To meet the requirements of Rule 5.1(a)(ii) PCT, the documents cited above should have been identified in the description and the relevant background art disclosed therein should have been briefly discussed.

The description is not in conformity with the amended claims as required by Rule 5.1(a)(iii) PCT.

Reference signs in parentheses should have been inserted in the claims to increase their intelligibility, Rule 6.2(b) PCT. This applies to both the preamble and characterising portion.

**SECTION VIII**

Contrary to Article 6 PCT present claim 9 does not clearly define which apparatus features are recited, i.e. the technical features of claim 9 have not been explicitly defined.

Items c1) and c2) of claim 1 seem to refer to a choice of two different ways of locating a single entry. This is, however, not clear from the wording of claim 1 (Article 6 PCT).

## Claims

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1. A method for locating stored entries in an electronic directory, said directory containing a plurality of entries each comprising a name field and an associated telephone and/or telefax number field, said method comprising the
- 10 steps of:
- a) receiving information concerning a predefined number of characters of a name,
  - b) identifying all entries in said directory whose name fields match said information, and
  - 15 c) if more than one entry has been identified in step b), receiving further information to locate a single entry from the identified entries, characterized by the following sub steps being performed if more than one entry has been identified in step b):
- 20 b1) displaying at least some of the identified entries to a user,
- c1) receiving said further information, wherein said further information comprises information regarding the selection of one of the displayed entries by the user,
  - 25 c2) receiving further information concerning a predefined number of further characters of said name, and
  - c2) identifying all entries in said directory whose name fields match all the information received so far.
- 30 2. The method of claim 1, wherein steps c2) and c3) are repeated until one entry in said directory is uniquely determined.
- 35 3. The method of claims 1 or 2, wherein the user is prompted to enter further information as long as more than one entry in said directory is identified in step b) and/or in step c3).

AMENDED SHEET

4. The method of one of the claims 1 to 3, wherein said predefined number of characters in step a) is one, two, three or four.

5 5. The method of one of the claims 1 to 4, wherein said predefined number of further characters in step c3) is one.

6. The method of one of claims 1 to 5, wherein said information received in step a) and/or in step c2) comprises a plurality of key indications, each key indication corresponding to one character of said predefined number of characters.

7. The method of claim 6, wherein each key indication matches a set of characters.

8. The method of claim 7, wherein each key indication corresponds to a keypress on a numeric keypad.

9. A communication apparatus, in particular a telephone apparatus, being capable of carrying out the method recited in one of claims 2 to 8.

10. The apparatus recited in claim 9, comprising means for locating stored entries in an electronic directory, said directory containing a plurality of entries each comprising a name field and an associated telephone and/or telefax number field, said apparatus comprising:

- means for receiving information concerning a predefined number of characters of a name,
- identifying means for identifying all entries in said directory whose name fields match said information, and
- means for receiving further information to locate a single entry from the identified entries, said receiving means being operated if more than one entry has been identified by said identifying means, wherein

AMENDED SHEET

- displaying means are provided for displaying at least some of the identified entries to a user, if more than one entry has been identified by said identifying means,
- said receiving means being capable of receiving said  
5 further information comprising information regarding the selection of one of the entries displayed by said displaying means, whereby said further information comprises a predefined number of further characters of said name, and
- said identifying means being capable of identifying of  
10 entries in said directory whose name fields match all the information received so far.

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AMENDED SHEET





5. The method of claim 4, wherein steps c1) and c2) are repeated until one entry in said directory is uniquely determined.

5 6. The method of claim 4 or 5, wherein said predefined number of further characters in step c2) is one.

7. The method of one of claims 1 to 6, wherein said information received in step a) and/or in step c1) comprises a plurality of key indications, each key indication corresponding to one character of said predefined number of characters.

8. The method of claim 7, wherein each key indication matches a set of characters.

9. The method of claim 8, wherein each key indication corresponds to a keypress on a numeric keypad.

10 10. The method of one of claims 1 to 9, wherein the user is prompted to enter further information as long as more than one entry in said directory is identified in step b) and/or in step c2).

25 11. A communication apparatus, in particular a telephone apparatus, comprising means for locating stored entries in an electronic directory, said directory containing a plurality of entries each comprising a name field and an associated telephone and/or telefax number field, said apparatus comprising:

- means for receiving information concerning a predefined number of characters of a name,
- identifying means for identifying all entries in said directory whose name fields match said information, and
- 35 - means for receiving further information to locate a single entry from the identified entries, if more than one entry has been identified by said identifying means.

12. The apparatus recited in claim 11,  
characterized in that said apparatus further comprises means  
for performing the method recited in one of claims 2 to 10.

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# PCT

## REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

International Application No.

International Filing Date

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference  
(if desired) (12 characters maximum) EP-77 940/PCT

### Box No. I TITLE OF INVENTION

Method for locating stored entries in an electronic telephone directory and communication apparatus

### Box No. II APPLICANT

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (i.e. country) of residence if no State of residence is indicated below.)

Maxon Systems Inc. (London) Ltd.  
Maxon House  
Honeycrook Lane  
Salfords, Surrey RH1 5JP  
United Kingdom

☐ This person is also inventor.

Telephone No.

Facsimile No.

Teleprinter No.

State (i.e. country) of nationality:

United Kingdom (GB)

State (i.e. country) of residence:

United Kingdom (GB)

This person is applicant  
for the purposes of:

☐ all designated  
States

☒ all designated States except  
the United States of America

☐ the United States  
of America only

☐ the States indicated in  
the Supplemental Box

### Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (i.e. country) of residence if no State of residence is indicated below.)

Whitley Tony  
26 Beaufort Gardens  
Ascot  
Berkshire SL5 8PG  
United Kingdom

This person is:

☐ applicant only

☒ applicant and inventor

☐ inventor only (If this check-box  
is marked, do not fill in below.)

State (i.e. country) of nationality:

United Kingdom (GB)

State (i.e. country) of residence:

United Kingdom (GB)

This person is applicant  
for the purposes of:

☐ all designated  
States

☐ all designated States except  
the United States of America

☒ the United States  
of America only

☐ the States indicated in  
the Supplemental Box

☐ Further applicants and/or (further) inventors are indicated on a continuation sheet.

### Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:

☒ agent

☐ common representative

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

Steffen J. Schmidt  
Wuesthoff & Wuesthoff  
Patent- und Rechtsanwälte  
Schweigerstr. 2  
  
D-81541 München

Telephone No.

089/62 18 00-0

Facsimile No.

089/62 18 00-15

Teleprinter No.

☐ Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

## Box No.V DESIGNATION OF STATES

The following designations are hereby made under Rule 4.9(a) (mark the applicable check-boxes; at least one must be marked):

## Regional Patent

- ☒ AP ARIPO Patent: GH Ghana, KE Kenya, LS Lesotho, MW Malawi, SD Sudan, SZ Swaziland, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☒ EA Eurasian Patent: AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ EP European Patent: AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ OA OAPI Patent: BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

## National Patent (if other kind of protection or treatment desired, specify on dotted line):

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> AL Albania                               | <input checked="" type="checkbox"/> LV Latvia                                    |
| <input checked="" type="checkbox"/> AM Armenia                               | <input checked="" type="checkbox"/> MD Republic of Moldova                       |
| <input checked="" type="checkbox"/> AT Austria                               | <input checked="" type="checkbox"/> MG Madagascar                                |
| <input checked="" type="checkbox"/> AU Australia                             | <input checked="" type="checkbox"/> MK The former Yugoslav Republic of Macedonia |
| <input checked="" type="checkbox"/> AZ Azerbaijan                            |  |
| <input checked="" type="checkbox"/> BA Bosnia and Herzegovina                | <input checked="" type="checkbox"/> MN Mongolia                                  |
| <input checked="" type="checkbox"/> BB Barbados                              | <input checked="" type="checkbox"/> MW Malawi                                    |
| <input checked="" type="checkbox"/> BG Bulgaria                              | <input checked="" type="checkbox"/> MX Mexico                                    |
| <input checked="" type="checkbox"/> BR Brazil                                | <input checked="" type="checkbox"/> NO Norway                                    |
| <input checked="" type="checkbox"/> BY Belarus                               | <input checked="" type="checkbox"/> NZ New Zealand                               |
| <input checked="" type="checkbox"/> CA Canada                                | <input checked="" type="checkbox"/> PL Poland                                    |
| <input checked="" type="checkbox"/> CH and LI Switzerland and Liechtenstein  | <input checked="" type="checkbox"/> PT Portugal                                  |
| <input checked="" type="checkbox"/> CN China                                 | <input checked="" type="checkbox"/> RO Romania                                   |
| <input checked="" type="checkbox"/> CU Cuba                                  | <input checked="" type="checkbox"/> RU Russian Federation                        |
| <input checked="" type="checkbox"/> CZ Czech Republic                        | <input checked="" type="checkbox"/> SD Sudan                                     |
| <input checked="" type="checkbox"/> DE Germany                               | <input checked="" type="checkbox"/> SE Sweden                                    |
| <input checked="" type="checkbox"/> DK Denmark                               | <input checked="" type="checkbox"/> SG Singapore                                 |
| <input checked="" type="checkbox"/> EE Estonia                               | <input checked="" type="checkbox"/> SI Slovenia                                  |
| <input checked="" type="checkbox"/> ES Spain                                 | <input checked="" type="checkbox"/> SK Slovakia                                  |
| <input checked="" type="checkbox"/> FI Finland                               | <input checked="" type="checkbox"/> SL Sierra Leone                              |
| <input checked="" type="checkbox"/> GB United Kingdom                        | <input checked="" type="checkbox"/> TJ Tajikistan                                |
| <input checked="" type="checkbox"/> GE Georgia                               | <input checked="" type="checkbox"/> TM Turkmenistan                              |
| <input checked="" type="checkbox"/> GH Ghana                                 | <input checked="" type="checkbox"/> TR Turkey                                    |
| <input checked="" type="checkbox"/> HU Hungary                               | <input checked="" type="checkbox"/> TT Trinidad and Tobago                       |
| <input checked="" type="checkbox"/> IL Israel                                | <input checked="" type="checkbox"/> UA Ukraine                                   |
| <input checked="" type="checkbox"/> IS Iceland                               | <input checked="" type="checkbox"/> UG Uganda                                    |
| <input checked="" type="checkbox"/> JP Japan                                 | <input checked="" type="checkbox"/> US United States of America                  |
| <input checked="" type="checkbox"/> KE Kenya                                 |  |
| <input checked="" type="checkbox"/> KG Kyrgyzstan                            | <input checked="" type="checkbox"/> UZ Uzbekistan                                |
| <input checked="" type="checkbox"/> KP Democratic People's Republic of Korea | <input checked="" type="checkbox"/> VN Viet Nam                                  |
|  | <input checked="" type="checkbox"/> YU Yugoslavia                                |
| <input checked="" type="checkbox"/> KR Republic of Korea                     | <input checked="" type="checkbox"/> ZW Zimbabwe                                  |
| <input checked="" type="checkbox"/> KZ Kazakstan                             | Check-boxes reserved for designating States (for the purposes of                 |
| <input checked="" type="checkbox"/> LC Saint Lucia                           | a national patent) which have become party to the PCT after                      |
| <input checked="" type="checkbox"/> LK Sri Lanka                             | issuance of this sheet:  |
| <input checked="" type="checkbox"/> LR Liberia                               | <input type="checkbox"/>   |
| <input checked="" type="checkbox"/> LS Lesotho                               | <input type="checkbox"/>   |
| <input checked="" type="checkbox"/> LT Lithuania                             | <input type="checkbox"/>   |
| <input checked="" type="checkbox"/> LU Luxembourg                            | <input type="checkbox"/>   |

In addition to the designations made above, the applicant also makes under Rule 4.9(b) all designations which would be permitted under the PCT except the designation(s) of \_\_\_\_\_.

The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation of a designation consists of the filing of a notice specifying that designation and the payment of the designation and confirmation fees. Confirmation must reach the receiving Office within the 15-month time limit.)

**Box No. VI PRIORITY CLAIM**Further priority claims are indicated in the Supplemental Box ☐

The priority of the following earlier application(s) is hereby claimed:

Country (in which, or for which, the application was filed)	Filing Date (day/month/year)	Application No.	Office of filing (only for regional or international application)
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item (2)			
item (3)			

Mark the following check-box if the certified copy of the earlier application is to be issued by the Office which for the purposes of the present international application is the receiving Office (a fee may be required):

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**Box No. VIII CHECK LIST**

This international application contains the following number of sheets:

- |                |   |   |        |
|----------------|---|---|--------|
| 1. request     | : | 3 | sheets |
| 2. description | : | 7 | sheets |
| 3. claims      | : | 3 | sheets |
| 4. abstract    | : | 1 | sheets |
| 5. drawings    | : | 3 | sheets |

Total : 17 sheets


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- |   |  |
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| 1. <input type="checkbox"/> separate signed power of attorney                         | 5. <input type="checkbox"/> fee calculation sheet                                    |
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Figure No. \_\_\_\_\_ of the drawings (if any) should accompany the abstract when it is published.

**Box No. IX SIGNATURE OF APPLICANT OR AGENT**

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).

  
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 Patent Attorney

190897

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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>6</sup> :</b> <b>H04M 1/274</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 99/09729</b> <b>(43) International Publication Date:</b> 25 February 1999 (25.02.99)
<b>(21) International Application Number:</b> PCT/GB97/02226 <b>(22) International Filing Date:</b> 20 August 1997 (20.08.97)  <b>(71) Applicant (for all designated States except US):</b> MAXON SYSTEMS INC. (LONDON) LTD. [GB/GB]; Maxon House, Honeycrock Lane, Salfords, Surrey RH1 5JP (GB).  <b>(72) Inventor; and</b> <b>(75) Inventor/Applicant (for US only):</b> WHITLEY, Tony [GB/GB]; 26 Beaufort Gardens, Ascot, Berkshire SL5 8PG (GB).  <b>(74) Agent:</b> SCHMIDT, Steffen, J.; Wuesthoff & Wuesthoff, Patent- und Rechtsanwälte, Schweigerstrasse 2, D-81541 München (DE).		<b>(81) Designated States:</b> KR, US, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  <b>Published</b> <i>With international search report.</i>
<b>(54) Title:</b> COMMUNICATION APPARATUS AND METHOD FOR LOCATING STORED ENTRIES IN AN ELECTRONIC TELEPHONE DIRECTORY  <b>(57) Abstract</b> <p>A method for locating stored entries in an electronic directory, said directory containing a plurality of entries each comprising a name field and an associated telephone and/or telefax number field, comprises the steps of receiving information concerning a predefined number of characters of a name, identifying all entries in said directory whose name fields match said information, and, if more than one entry has been identified, receiving further information to select a single entry from the identified entries. A communication apparatus is adapted to perform this method. The method and apparatus of the invention enable a user of a telephone to easily find stored entries in an electronic directory.</p> <div data-bbox="1096 1171 1502 1984"><pre>graph TD     30[receive key information corresponding to three characters] --&gt; 32[search directory for entries with matching name fields]     32 --&gt; 34{entry uniquely identified?}     34 -- yes --&gt; 40[dial selected telephone number]     34 -- no --&gt; 36[display all found entries]     36 --&gt; 38[receive information regarding the selection of one of the shown entries]     38 --&gt; 40</pre></div>		

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## COMMUNICATION APPARATUS AND METHOD FOR LOCATING STORED ENTRIES IN AN ELECTRONIC TELEPHONE DIRECTORY

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The invention concerns a method for locating stored entries in an electronic directory and a communication apparatus. The method may be performed by any type of communication apparatus, which comprises telephones, facsimile machines, computers, electronic organizers and other devices. The method is especially suited to be incorporated in telephones of all kinds, such as mobile telephones, office desk phones, private branch exchange operator consoles and so on.

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The devices mentioned above typically comprise an electronic directory in which a plurality of entries is stored. Each entry contains the name of a person or institution, associated telephone and/or telefax numbers and possibly further information.

20

It is known to access such an electronic directory by entering a name of a person or institution to be called. This name is then searched automatically in the directory, and the corresponding telephone and/or telefax numbers are indicated and may be dialled. This method, however, is quite inconvenient since the exact name must be entered. This is error-prone and does not yield a result if the user does not remember the name exactly. Furthermore, the name to be entered may be quite long, such that a considerable amount of typing may be involved.

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It is also known display the complete list of entries in the directory. The user may scroll through the list and may select an appropriate entry using cursor keys. This method is not suitable if many entries are stored in the directory.

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Consequently, the invention has the objective to solve the above-mentioned problems and to provide means which enable a user to easily find stored entries in an electronic directory.

5 This objective is solved by a method having the features of claim 1 and by a communication apparatus having the features of claim 11. The term "name" as used herein is to be interpreted as comprising all kinds of information which may  
10 serve to identify a person, institution or any other entity to be called. A name may comprise several parts, e.g. a first name, a last name, a title, and so on. Correspondingly, the name field may be divided into subfields for storing these parts. During the identification step, the  
15 entered information may be matched to all subfields of the name fields or only to a selected subset thereof.

The inventive method and apparatus allow the user to search and find a desired entry in the database even if only  
20 information concerning a part of the name to be called is entered. This is very convenient. The user may search for names which he does not remember completely. Only very few keypresses are required.

25 In preferred embodiments, the information entered initially by the user corresponds to one, two, three or four characters of the name to be searched. As soon as this predetermined amount of information is entered, it is preferably determined whether an entry in the directory is uniquely  
30 specified.

If there are multiple matches, they are preferably shown to the user, who may scroll through the list and select the correct one manually. In other preferred embodiments, the  
35 user may be prompted to enter further information about the searched entry, in particular information about further characters in the name field. These two approaches may also

be combined by giving the user the choice of entering further information or selecting one of the currently shown entries.

- 5 In order to enter information about the searched entry, the user preferably presses keys on a numeric keypad. Each of these keys may correspond to one digit and a predefined set of characters. For example, one key may be labelled "8TUV" and may match the characters "T", "U" and "V" in an entry of  
10 the directory.

Further preferred embodiments of the invention are recited in the dependent claims.

- 15 Several sample embodiments of the invention will now be described in more detail with reference to the drawings, in which:

Fig. 1 shows a block diagram of a telephone apparatus  
20 according to the present invention,

Fig. 2 shows a flow diagram according to a first embodiment of the method of the invention, and

- 25 Fig. 3 shows a flow diagram according to a second embodiment of the method of the invention.

The method of the invention can be performed using any communication apparatus which has a display, a keyboard and a  
30 suitable control unit for storing and maintaining a directory. The keyboard may be a numeric keypad. In the sample embodiments described herein, a GSM mobile telephone is employed. The telephone is shown in Fig. 1. It includes a high frequency unit 10 for sending and receiving radio  
35 frequency over an antenna 12, and an audio frequency unit 14 coupled to the high frequency unit 10 as well as to a speaker 16 and a microphone 18. A processing unit 20 is

coupled to the high frequency unit 10, the audio frequency unit 14, a memory 22, a numeric keypad 24, a visual LCD display 26 and a ring tone generator 28. On each key of the keypad 24, one digit and three characters of the alphabet are indicated. In other words, a key indication, which signifies that a certain key on the numeric keypad 24 has been pressed, will match any of the characters indicated on the key.

- 10 The directory is stored in the memory 22. It contains a plurality of entries, each having a name field and an associated telephone number field. Each name field is divided into two subfields for holding a first name and a last name, respectively. The following table gives an example of such a directory, which will be used in the subsequent description:

first name	last name	telephone #
SAM	WHITE	09876-54321
TONY	WHITLEY	01234-56789
...	...	...

- 20 In the telephone shown in Fig. 1, the numeric keypad 24, the processing unit 20 and the memory 22 form means for receiving information concerning a predefined number of characters of a name and means for receiving further information to locate a single entry from a set of identified entries. The processing unit 20 and the memory 22 form identifying means for identifying entries in the directory stored in the memory 22. The processing unit 20, the memory 22, the keypad 24 and the display 26 together form means for locating stored entries in the directory.
- 25
- 30 In a first sample embodiment of the method of the present invention, which is shown in Fig. 2, exactly three keys on the keypad 24 are pressed in order to provide information

concerning the first three letters of the first name subfield or the last name subfield. The corresponding key indications are received (box 30) and the directory is searched for entries with matching name fields (box 32). It is then determined whether an entry has been uniquely identified (box 34). If this is the case, the telephone number stored in this entry is dialled either automatically or by pressing a special dialling key or by selecting an appropriate menu option (box 40).

For example, pressing the keys labelled "8TUV", "6MNO" and "6MNO" in this order will uniquely match the character sequence "TON" in the first name field and will cause the number 01234-56789 to be recalled and dialled. If the entry "SAM WHITE" was not present in the sample directory, pressing the key sequence "9WXY", "4GHI" and "4GHI" would also recall the number 01234-56789 since this sequence would uniquely match "WHI" in the last name field.

In the sample directory shown above, however, pressing the key sequence "9WXY", "4GHI" and "4GHI" will match both entries. This is not very likely in a small directory, but it may happen. As a result, the two matching names (and any other matching names which may have been found in the directory) are shown on the display 26 (box 36). The user may scroll through these names using the cursor keys of the telephone, and may select the correct name by pressing an enter key (box 38). The number associated with this name is then dialled in the way described above (box 40).

Instead of scrolling through the list, the user may also press further digit keys to enter information about the subsequent characters of the names. After each further keypress, the list of matching names is updated by the telephone. The user may continue typing further digit keys until an entry is uniquely identified, or he may at any point decide to select one of the shown entries manually.

In an alternative embodiment, which is especially suited for telephones with small displays, no list of matching names is shown if the name has not yet been uniquely identified.

5 Instead, the user receives an indication that further information, i.e. further keypresses, are necessary in order to fully identify the name. The method of this embodiment is shown in Fig. 3, in which boxes 30, 32, 34 and 40 are the same as described above. Box 42 signifies the pressing of  
10 one further key. Box 44 denotes a searching process similar to that of box 32 with the exception that all information entered so far by the user is taken into account.

In further alternative embodiments, the number of keys to be  
15 pressed before the search commences is different from three. In particular, this number may be one. Then a list of matching names is shown and updated after every single keypress.

In yet further alternative embodiments, it may be necessary  
20 to start the searching process by some special action, for example by pressing a key labelled "RECALL" or by choosing a corresponding menu item. This may be necessary because the search may be quite slow when a large database has to be inspected by a limited capacity processor.

25 The "RECALL" key may also be used to distinguish dialling a number from accessing the directory. For example, the key sequence "9WXY", "4GHI" and "4GHI" may either signify that the user wants to dial the telephone number 944, or that he  
30 wants to search for a directory entry. Consequently, the user may be required to press either a "DIAL" key or the "RECALL" key after entering the above key sequence such that the appropriate action can be performed.

35 In alternative embodiments, the telephone can be put into a search mode by pressing the "RECALL" key before entering the search term. For example, the key sequence "RECALL", "9WXY",

"4GHI" and "4GHI" may be used to initiate a search. This special search mode is especially useful if the list of results is updated in response to every single keypress.

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## Claims

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1. A method for locating stored entries in an electronic directory, said directory containing a plurality of entries each comprising a name field and an associated telephone and/or telefax number field, said method comprising the steps of:

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a) receiving information concerning a predefined number of characters of a name,

b) identifying all entries in said directory whose name fields match said information, and

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c) if more than one entry has been identified in step b), receiving further information to locate a single entry from the identified entries.

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2. The method of claim 1, wherein said predefined number of characters in step a) is one, two, three or four.

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3. The method of claim 1 or 2, wherein, if more than one entry has been identified in step b), at least some of the identified entries are displayed to a user, and wherein said further information received in step c) comprises information regarding the selection of one of the displayed entries by the user.

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4. The method of one of claims 1 to 3, wherein, if more than one entry has been identified in step b), the following substeps of step c) are performed:

c1) receiving further information concerning a predefined number of further characters of said name,

c2) identifying all entries in said directory whose name

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fields match all the information received so far.



5. The method of claim 4, wherein steps c1) and c2) are repeated until one entry in said directory is uniquely determined.

5 6. The method of claim 4 or 5, wherein said predefined number of further characters in step c2) is one.

7. The method of one of claims 1 to 6, wherein said information received in step a) and/or in step c1) comprises a plurality of key indications, each key indication corresponding to one character of said predefined number of characters.

8. The method of claim 7, wherein each key indication matches a set of characters.

9. The method of claim 8, wherein each key indication corresponds to a keypress on a numeric keypad.

10 10. The method of one of claims 1 to 9, wherein the user is prompted to enter further information as long as more than one entry in said directory is identified in step b) and/or in step c2).

25 11. A communication apparatus, in particular a telephone apparatus, comprising means for locating stored entries in an electronic directory, said directory containing a plurality of entries each comprising a name field and an associated telephone and/or telefax number field, said apparatus comprising:

- means for receiving information concerning a predefined number of characters of a name,
- identifying means for identifying all entries in said directory whose name fields match said information, and
- 35 - means for receiving further information to locate a single entry from the identified entries, if more than one entry has been identified by said identifying means.

12. The apparatus recited in claim 11,  
characterized in that said apparatus further comprises means  
for performing the method recited in one of claims 2 to 10.

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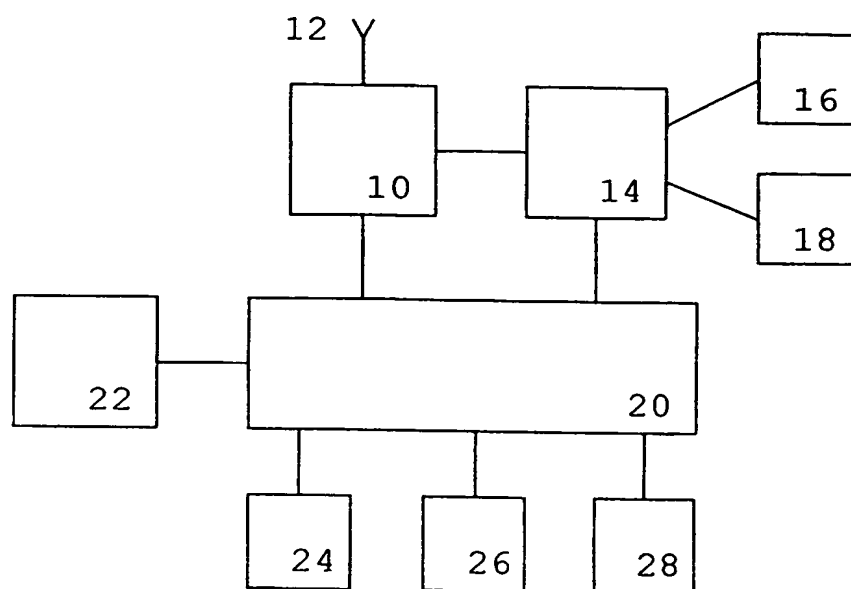


Fig. 1

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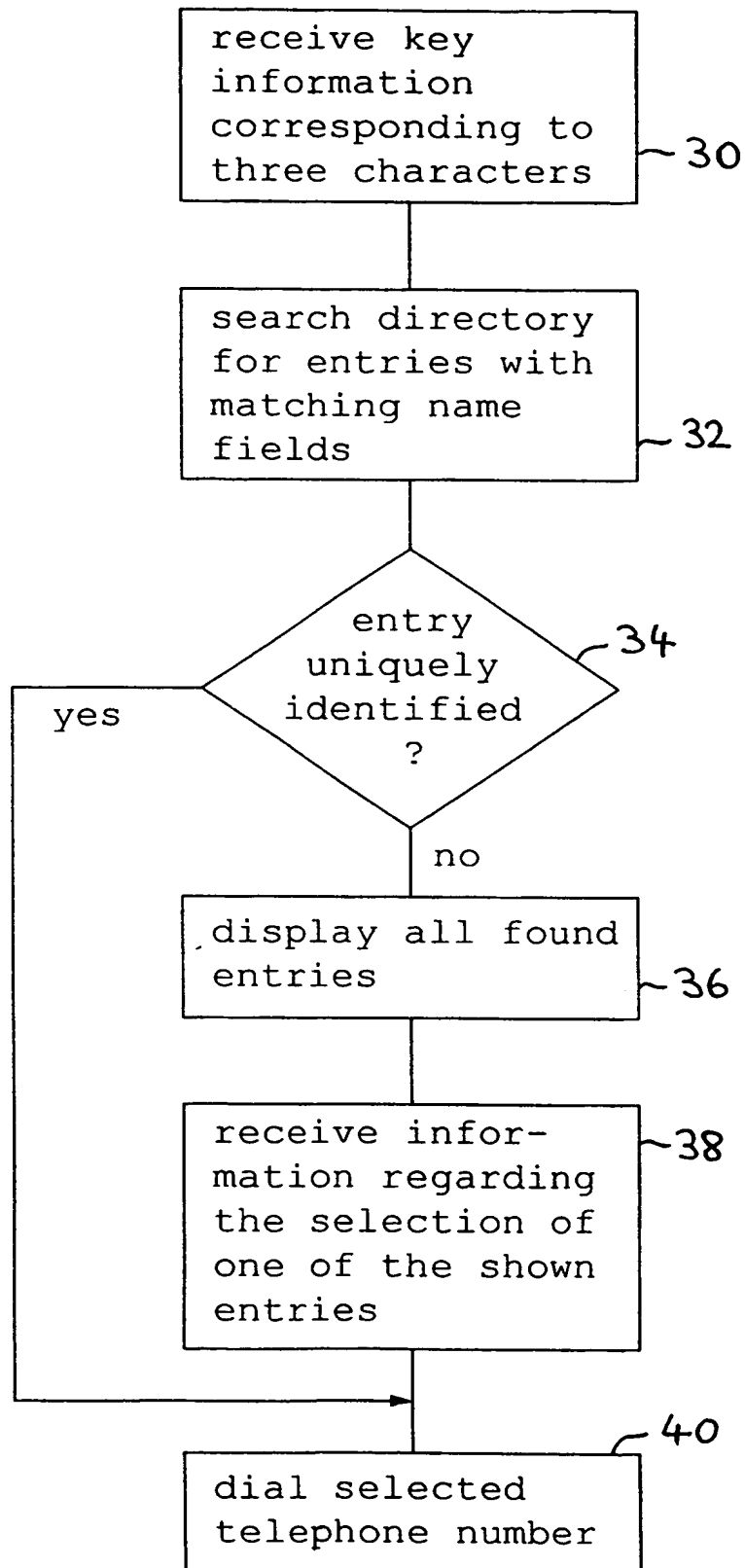


Fig. 2

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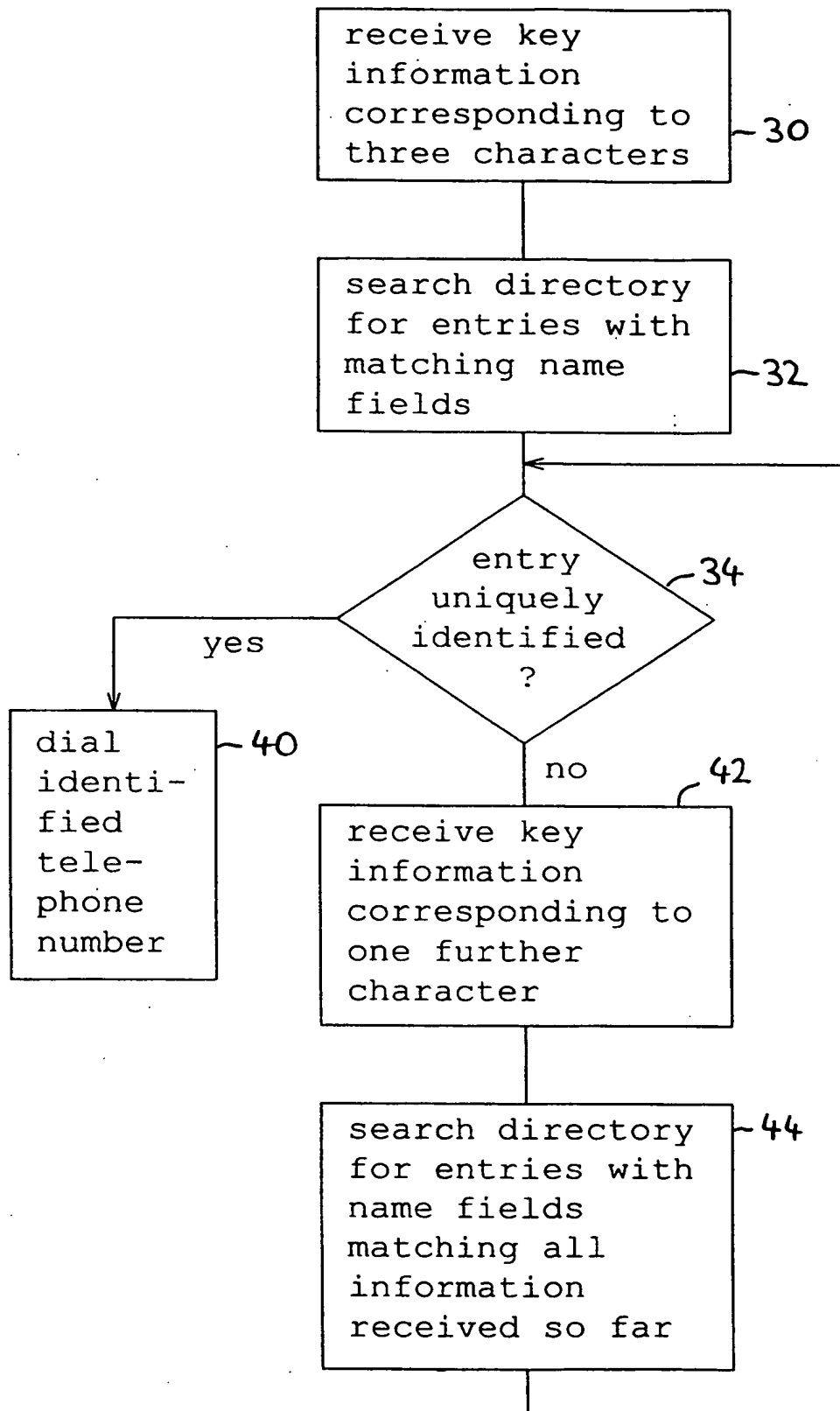


Fig. 3

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 97/02226

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 6 H04M1/274

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 H04M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	RUIZ A: "VOICE AND TELEPHONY APPLICATIONS FOR THE OFFICE WORKSTATION" PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON COMPUTER WORKSTATION, SAN JOSE, CALIFORNIA, NOVEMBER 11 - 14, 1985, no. CONF. 1, 11 November 1985, INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, pages 158-163, XP002029811 see on page 160 paragraph: "Tele" - Directory based autodial.	1-12
X	US 4 341 929 A (ALEXANDER RICHARD D ET AL) 27 July 1982 see column 2, line 5 - column 3, line 36 see column 3, line 57 - column 4, line 11 see figures 1,3,4 --- -/--	1-12

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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# INTERNATIONAL SEARCH REPORT

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**C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 120 477 A (SIEMENS AG) 3 October 1984  see page 4, line 20-32 see page 5, line 16-37 see page 8, line 13-23 see figures 1,2  ----	1-3,7,8, 10-12
X	GB 2 266 797 A (NOKIA MOBILE PHONES UK ;NOKIA MOBILE PHONES LTD (FI)) 10 November 1993 see page 10, line 22 - page 12, line 11; figure 3 see abstract  ----	1-12
X	EP 0 457 077 A (ROLM SYSTEMS) 21 November 1991 see column 2, line 26 - column 3, line 24; figures 1,2  ----	1-12
X	EP 0 567 333 A (NIPPON ELECTRIC CO) 27 October 1993 see abstract; figure 3  -----	1,12

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 97/02226

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EP 0567333 A	27-10-93	JP 6046121 A AU 3713093 A CA 2094547 A,C KR 9608330 B US 5467392 A	18-02-94 28-10-93 24-10-93 24-06-96 14-11-95